

AMENDMENTS TO THE CLAIMS:

Please amend the claims, as indicated below. This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) A signal processing method comprising:
receiving a first ~~signal for~~ wireless communication signal, the first signal
including distortion produced by pulse shaping;
obtaining an ~~approximate function of the pulse shaping in the first signal~~
approximation of the pulse shaping distortion;
separating the ~~approximate function of pulse shaping~~ approximation of the
pulse shaping distortion from the first signal to obtain a second
signal; and
processing the second signal to obtain a user signal.
2. (Original) The method of claim 1, further comprising:
conducting a single-user detection; and
obtaining an amplitude estimate and a symbol delay for a user in a frame.
3. (Original) The method of claim 1, wherein the second signal has insignificant or no pulse shaping effects.

4. (Currently Amended) The method of claim 1, wherein separating the ~~approximate function of pulse shaping~~ approximation of the pulse shaping distortion from the first signal comprises applying an equalization.
5. (Currently Amended) The method of claim 1, wherein separating the ~~approximate function of pulse shaping~~ approximation of the pulse shaping distortion from the first signal comprises applying a decision feedback equalization.
6. (Currently Amended) The method of claim 1, wherein separating the ~~approximate function of pulse shaping~~ approximation of the pulse shaping distortion from the first signal comprises applying at least one order of perturbation to adjust the ~~approximate function of pulse shaping~~ approximation of the pulse shaping distortion.
7. (Currently Amended) The method of claim 1, wherein separating the ~~approximate function of pulse shaping~~ approximation of the pulse shaping distortion from the first signal comprises:
 - applying at least two equalizations; and
 - repetitively applying at least one order of perturbation to adjust the ~~approximate function of pulse shaping~~ approximation of the pulse shaping distortion.

8. (Currently Amended) The method of claim 1, wherein separating the ~~approximate function of pulse shaping~~ approximation of the pulse shaping distortion from the first signal comprises separating an approximately known function of pulse shaping from an unknown function of a time-varying channel function.
9. (Currently Amended) A signal processing method comprising:
 - receiving a first ~~signal for~~ wireless communication signal, the first signal including a non-channel function;
 - obtaining an ~~approximate~~ approximation of a the non-channel function in ~~the first signal;~~
 - separating the ~~approximate~~ approximation of the non-channel function from the first signal to obtain a second signal that includes a time-varying channel function; and
 - processing the second signal to obtain a user signal.
10. (Currently Amended) The method of claim 9, wherein the non-channel function comprises a transformation function ~~selected from a linear and continuous transformation function, including a pulse shaping function, and a low pass filtering.~~
11. (Currently Amended) The method of claim 9, further comprising:
 - conducting a single user detection; and

obtaining an amplitude estimate and a symbol delay for a user in a frame
to obtain the ~~approximate~~ approximation of the non-channel
function.

12. (Original) The method of claim 9, wherein the second signal has insignificant or no non-channel functions.
13. (Currently Amended) The method of claim 9, wherein separating the ~~approximate~~ approximation of the non-channel function from the first signal comprises applying an equalization.
14. (Currently Amended) The method of claim 9, wherein separating the ~~approximate~~ approximation of the non-channel function from the first signal comprises applying a decision feedback equalization.
15. (Currently Amended) The method of claim 9, wherein separating the ~~approximate~~ approximation of the non-channel function from the first signal comprises applying at least one order of perturbation to adjust the ~~approximate~~ approximation of the non-channel function.

16. (Currently Amended) The method of claim 9, wherein separating the ~~approximate~~ approximation of the non-channel function from the first signal comprises separating an approximately known non-channel function from an unknown function of a time-varying channel function.
17. (Currently Amended) The method of claim 9, wherein separating the ~~approximate~~ approximation of the non-channel function from the first signal comprises:
 - applying at least two equalizations; and
 - repetitively applying at least one order of perturbation to adjust the ~~approximate~~ approximation of the non-channel function.
18. (Currently Amended) A signal processing system, comprising:
 - a receiver for receiving a first signal for wireless communication;
 - a tracking device for obtaining an amplitude estimate and a symbol delay for a user;
 - an approximating device, coupled to the tracking device, for providing an ~~approximate~~ approximation of a non-channel function in the first signal; and
 - a signal-separating device, coupled to the approximating device, for separating the ~~approximate~~ approximation of the non-channel function from the first signal to obtain a second signal that includes a time-varying channel function.

19. (Currently Amended) The ~~method~~ system of claim 18, wherein the non-channel function comprises a transformation function ~~selected from a linear and continuous transformation function, a pulse shaping function, and a low pass filtering.~~
20. (Currently Amended) The ~~method~~ system of claim 18, wherein separating the ~~approximate~~ approximation of the non-channel function from the first signal comprises at least one of the following process:
 - applying at least one equalization; and
 - applying at least one order of perturbation to adjust the ~~approximate~~ approximation of the non-channel function.
21. (New) The method of claim 9, wherein an approximation of the non-channel function comprises an approximation of the non-channel distortion.